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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HORST RUMPF and MATTHIAS KREUTZ

Appeal 2009-007627
Application 09/854,393
Technology Center 2600

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and
BRADLEY W. BAUMEISTER, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

SUMMARY

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejections of claims 1-20:

Claims 1, 3, 5-9, 12-18, and 20 stand rejected under 35 U.S.C. § 103(a) as obvious over Hsin (US 6,580, 579 B1; issued June 17, 2003) in view of the prior art discussed within Hsin ("Hsin's prior art").

Claims 2, 4, 10, 11, and 19 stand rejected under 35 U.S.C. § 103(a) as obvious over Hsin in view of Hsin's prior art and Ferguson (US 5,619,581; issued Apr. 8, 1997).

We affirm.

STATEMENT OF THE CASE

Appellants' invention relates to electronically controlled circuits for attenuating mechanical shocks within storage disk media drives, such as portable CDs, DVDs, and MDs, as well as those used in automobiles (Spec. 1). Independent claim 1 is illustrative:

1. An apparatus having a control circuit which comprises a feed forward filter arrangement and a controller, characterized in that the parameters of the feedforward filter arrangement and the parameters of the controller are adapted by an adaptation algorithm during operation of the apparatus.

ARGUMENTS¹

Regarding claims 1, 3, 5-9, 12-18, and 20, the Examiner finds that Hsin discloses every limitation of the claims, except for the requirement that the parameters of the controller are adapted by the adaptation algorithm (Ans. 3-9, 13-15). The Examiner further finds, though, that Hsin's prior art teaches this limitation (e.g., Ans. 4 (citing Hsin, col. 2, ll. 6-12)), and that motivation existed to incorporate this additional functionality into Hsin's system (Ans. 4).

Regarding claims 2, 4, 10, 11, and 19, the Examiner further finds that Hsin fails to disclose that the component executing the adaptation algorithm is a microprocessor, or more particularly, a digital signal processor (DSP) (Ans. 10). The Examiner also finds Ferguson teaches that such a component may specifically be a DSP and that Ferguson suggests why one would have specifically employed a DSP (*id.*).

¹ Rather than repeat the Examiner's positions and Appellants' arguments in their entirety, throughout this opinion we refer to the following documents for their respective details: (1) the Appeal Brief ("App. Br.") filed November 15, 2006; and (2) the Examiner's Answer ("Ans.") mailed February 9, 2007. The record also contains an earlier Appeal Brief (filed February 6, 2006), an earlier Examiner's Answer (mailed April 28, 2006), and a Reply Brief (filed June 28, 2006). However, in response to Appellants' Petition under 37 C.F.R. § 1.181 (filed June 28, 2006), the Examiner vacated the earlier Examiner Answer and replaced it with the subsequent Examiner's Answer that was mailed February 9, 2007 (Ans. 1). Accordingly, we do not consider any of the positions set forth in the initial Examiner's Answer, or any of the arguments set forth in the initial Appeal Brief or Reply Brief.

ISSUES

Have Appellants demonstrated the Examiner erred in rejecting claims 1, 3, 5-9, 12-18, and 20 under 35 U.S.C. § 103(a) as obvious over Hsin in view of Hsin's prior art?

Have Appellants demonstrated the Examiner erred in rejecting claims 2, 4, 10, 11, and 19 under 35 U.S.C. § 103(a) as obvious over Hsin in view of Hsin's prior art and Ferguson?

FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

Hsin

1. "Kempf used an accelerometer on a compact disc player to control the focus length of the reading lens. The filtered-x [least-mean-squared] LMS adaptation algorithm was applied to the controller parameters" (col. 2, ll. 6-9).
2. The adaptive filter receives the rotational acceleration signal and the position error signal and provides a feedforward signal to the actuator assembly. The feedforward signal is adapted to offset the disturbance to the read/write head position caused by rotational vibration. The adaptive filter adjusts its parameters based upon the rotational acceleration signal, the position error signal and a transfer function relating an actual position signal, indicative of the actual position of the read/write head relative to the disc surface, to the feedforward signal. The computer storage medium holds a predetermined plant estimate of the transfer function relating the actual position signal to the feedforward, the plant estimate being determined off-line.
(col. 2, ll. 55-67).

ANALYSIS

The Rejection of Claims 1, 3, 5-9, 12-18, and 20

Appellants separately argue each of claims 1, 3, 5-9, 12-18, and 20 (App. Br. 7-16). However, the arguments presented for claims 3, 5-9, 12-18, and 20 either (1) are substantially the same as those presented for independent claim 1; or (2) constitute a reiteration of the claim's language coupled with a summary allegation that the cited art does not teach the language. Accordingly, we treat claims 1, 3, 5-9, 12-18, and 20 as a single claim grouping, and select claim 1 as representative of this group. *See* 37 C.F.R. § 41.37(c)(1)(vii) (noting (i) “[a] statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim”; and (ii) arguments which Appellants could have made but did not make in the Brief have not been considered and are deemed to be waived).

Turning to the rejection of representative claim 1, Appellants support their broader contention of Examiner error with several specific contentions (App. Br. 4-9). We address each of these specific contentions separately.

Appellants argue that “[t]here is no disclosure or suggestion within *Hsin et al.* for the parameters of the controller are [sic] adapted by an adaptation algorithm” (e.g., App. Br. 5-6). This argument is not persuasive because the Examiner relied upon Hsin's background discussion of Kempf for this feature – not Hsin's invention itself.

Appellants contend the following: the fact that Hsin was aware of the Kempf's work, but did not incorporate this work into Hsin's invention, demonstrates that no motivation or suggestion exists for one of ordinary skill to modify Hsin to adapt parameters that control variations in external

disturbances (App. Br. 6). This argument is not persuasive. Hsin's failure to incorporate all of Kempf's disclosed features may, for example, alternatively demonstrate that either (1) Hsin was either uninterested in such a modification, or (2) such a modification did not occur to Hsin. As such, the fact that Hsin failed to incorporate Kempf's features, alone, is insufficient evidence to reasonably demonstrate that such a modification would have been unobvious to one of ordinary skill in the art.

Appellants contend "[t]here is no disclosure or suggestion within *Hsin et al.* or *Kempf* for the parameters of the feedforward filter arrangement and the parameters of the controller to be adapted by an adaptation algorithm during the operation of the apparatus" (App. Br. 7-8). For example, "[t]he prior art discussed by *Hsin et al.* pertains to deriving a single constant gain that is obtained off-line" (App. Br. 6). These arguments are not persuasive. Kempf discloses an adaptation algorithm is applied to the controller parameters (FF 1). The fact that the Kempf's algorithm is, in particular, an *adaptation* algorithm indicates that the algorithm functions during operation of the apparatus. Hsin also uses an adaptation algorithm for adapting parameters fed to the feedforward filter 232 (FF 2). The fact that "[t]he adaptive filter adjusts its parameters based upon [real time rotational and error signals]" (FF 2) further supports the Examiner's position that Hsin's adaptation algorithm functions during the operation of the apparatus.

Appellants more generally contend that no motivation or suggestion exists for the combination made by the rejection, and that "the rejection does not provide any reasonable expectation of success for the combinations made in the rejection or for the modifications that are made to those references used in making rejection" (App. Br. 9). These arguments are not

persuasive. We understand the Examiner's position to be that modifying Hsin's adaptation algorithm so as to further include Kempf's functionality would constitute "the predictable use of prior art elements according to their established functions." *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

Appellants' arguments regarding Hsin's background discussion of Hanks and Abramovitch (e.g., App. Br. 5, 8) are not persuasive because the Examiner instead relies on Hsin's background discussion of Kempf. *See* Ans. 4:6-8 (citing only the portion of Hsin's Admitted Prior Art that relates to Kempf for support of the finding that it was well known to use an adaptation algorithm to adapt parameters of a controller).

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's obviousness rejection of representative claim 1. Accordingly, we will sustain the Examiner's rejection of that claim, as well as claims 3, 5-9, 12-18, and 20 which were not separately argued.

The Rejection of Claims 2, 4, 10, 11, and 19

Appellants argue with respect to claims 2 and 19 that Ferguson does not teach executing an adaptation algorithm on its DSP, but rather, that adaptation weight coefficients are supplied by the DSP (App. Br. 19 (citing Ferguson, col. 3, ll. 35-66)). Appellants also contend that the entire purpose of Ferguson is for the adaptation path and the feed forward path to be implemented in separate hardware and specifically not on a DSP (App. Br. 19 (citing Ferguson's Abstract and Summary of Invention)). Appellants therefore conclude that combining Ferguson with Hsin and Hsin's prior art would change Ferguson's principle of operation (App. Br. 19).

These arguments are not persuasive. Ferguson teaches that “the adaptation weight coefficients are supplied [to the feedforward circuitry 26] by a DSP 28. . . . The digital signal processor (DSP) 28 is used solely for calculating the coefficient weights” (col. 3, ll. 49-55). We understand this passage, as well as others, to be synonymous with stating that that DSP 28 executes an adaptation algorithm, as required by claim 2. There is no *ipsissimis verbis* test for determining whether a reference discloses a claim element, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Furthermore, Appellants have not offered any rationales that would reasonably persuade us that Ferguson’s disclosure means anything other than the DSP is performing an adaptive algorithm.

Appellants’ other arguments regarding claims 2, 4, 10, 11, and 19 (*see* App. Br. 16-22) are similar to the other arguments discussed in relation to claim 1. These arguments are not persuasive for the reasons set forth *supra*.

CONCLUSIONS

Appellants have not shown that the Examiner erred in rejecting claims 1-20 under 35 U.S.C. § 103(a).

DECISION

The Examiner’s decision rejecting claims 1-20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2010).

AFFIRMED

Appeal 2009-007627
Application 09/854,393

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